

XXVII.—*On the Distribution of Birds in North Russia.*—
 Part III. *On the Longitudinal Distribution of the Birds of the SOUTHERN DIVISION (between $64\frac{1}{2}^{\circ}$ N. and 58° – 60° N.), and a Comparison of the Faunas of the TWO DIVISIONS; with Summaries.* By J. A. HARVIE BROWN, F.Z.S., Member of the British Ornithologists' Union.

IN the last part of this paper ('Annals,' July 1877, p. 1) I have treated of the distribution of species recorded by authors in the NORTHERN DIVISION. I now propose to work out, as far as my materials permit, and upon the same plan, the distribution of the species recorded in the SOUTHERN DIVISION.

The SOUTHERN DIVISION, as I have before indicated (*l. c.* p. 2), is that portion of North Russia south of $64\frac{1}{2}^{\circ}$ N. lat. extending to 60° N. lat. in the S.W., to the southern boundary of the Vologda Government, or about 59° N. lat., in the S.C., and including part of the Perm Government, south to 58° N. lat. and east to its eastern boundary in Asia, in the S.E. I have found this southern boundary the most convenient in consulting the various records of authors. It would doubtless have made it more regular in appearance to have included the Government of Novgorod and the northern half of that of Viatka; but at present the materials to which I have access do not admit of my doing so. Moreover, if we consult the map lately issued in Mr. Mackenzie Wallace's work on Russia, vol. ii.*; which shows the "Zones of Vegetation," it will, I think, be acknowledged that Novgorod will more naturally come to be entered in comparing a more southerly belt of land. Should it, however, be considered by any as belonging naturally to my SOUTHERN DIVISION, the records can at any time be added when the materials are forthcoming.

When Dr. A. Brandt has completed a list of the books and papers treating of the fauna of Russia, upon which, he informs me, he is engaged, the materials, I have no doubt, will become more accessible than they are at present, and the minutiae of distribution will be more easily worked out.

I propose to subdivide this DIVISION in a similar way to that adopted for the NORTHERN DIVISION, viz. into *Three Districts*, which I proceed to name and define as follows:—

* 'Russia.' Cassell, Petter, and Galpin: London, 1876.

1st. "*The S.W. District of the SOUTHERN DIVISION.*"—Included between 30° and 40° E. long. (and between 60° and $64^{\circ} 30'$ N. lat.). This includes, in the west, Viborg in Finland and the lake-districts of Onega and Ladoga, and, for convenience, the *whole* of the Olonetz Government with a portion of the Archangel Government.

2nd. "*The S.C. District of the SOUTHERN DIVISION.*"—Included between 40° and 50° E. long. (and between $64^{\circ} 30'$ N. lat. in the north, and the southern boundary of the Vologda Government, about 59° N. lat., in the south). This includes the main portion of the water-system of the Dvina south of Cholmogory and the upper valley of the Mezén.

3rd. "*The S.E. District of the SOUTHERN DIVISION.*"—Included between 50° E. long. and the eastern boundary of the Perm Government, 60° – 65° E. long. (and between 58° and $64^{\circ} 30'$ N. lat.). This includes the remaining portion of the Vologda Government eastward to the Ural, a part of the Archangel Government, and part of Perm—in other words, may be held as including the head-waters of the Petchora and Dvina rivers, and the sources of the Kama flowing southwards.

As with the NORTHERN DIVISION, I have tabulated the records of the authors who have treated of the birds of the SOUTHERN DIVISION; and I give below a list of these with the titles of their papers*, indicating the extent of the authors' field-work, or the districts in connexion with which they have written, by capital letters (S.W., S.C., or S.E.) affixed to the notice of each.

In addition, in a second Table, I propose to institute a comparison between the faunas of the two DIVISIONS as far as recorded, thus showing a general outline of latitudinal as well as longitudinal distribution.

The cross-references by numbers between the following list and the Table, and *vice versâ*, are continuous from the former 'List of Authorities' for the NORTHERN DIVISION; but authorities who have treated of the birds of both DIVISIONS *retain* the original numbers as given in the former list. Thus the newly added authorities for the SOUTHERN DIVISION are numbered from 19 onward.

* I entered the records in the Tables rather in the order in which I was able to consult the authors than in strict chronological order; but this is perhaps of minor importance.

SOUTHERN DIVISION.

LIST OF AUTHORS, &c.

3. BLASIUS (original No. 3, Part II., 'Annals,' July 1877, p. 4).

Notices of some of the birds met with in his travels are given; but I have not considered it necessary to refer directly to his work in the Tables.

4. LILLJEBORG (or. No. 4, *l. c.* p. 4).

5. HOFFMAN-BRANDT (or. No. 5, *l. c.* p. 4).

In most cases the exact number of specimens obtained of each species is mentioned in this paper; but as these do not necessarily indicate the comparative scarcity or commonness of the species, I have not reproduced these minute statements in every case.

8. MEVES (or. No. 8, *l. c.* p. 5).

11. PALMÉN (or. No. 11, *l. c.* p. 6).

Under this heading I quote, however, the more recent and fuller paper also which is mentioned under the author's name in Part II. (*l. c.* p. 6, note). Both of his works in this connexion, however, have been referred to throughout and come under No. 11*.

19.

1856. MEJAKOFF, A. "Catalogue des oiseaux observés dans le gouvernement de Wologda." (Bull. Soc. Imp. Nat. Mosc. xxix. 1856, pp. 625-635.) S.C.

A list of 143 species, along with short notes on some of them, from observations made for the most part in the districts of Wologda, Gresoviets, Kadnikov, Welsk, and part of that of Totma, in the south of the government.

* Also Kessler, 'Material till Kannedom om Onegasjön och Olonetz-kiska gouvernementets hufvudsakligen i zoologiskt hänseende,' St. Petersburg, 1868 (the original in Russian).

Kessler's records I have not been able to insert. Perhaps some one acquainted with the Russian language will kindly supply these.

I am informed, however, by Prof. J. A. Palmén that the districts in question (in the neighbourhood of the Swir river and between Lakes Önega and Ladoga) have been very fully worked by Herr Richard Sievers of Helsingfors, in 1875, and also the Wig lake and district in 1876; and I understand from Herr Sievers that he intends to publish the results of his investigations this autumn (1877). Later, I propose to offer an Appendix to this paper, bringing the data for the two Divisions up to date. It will not be in tabular form; but the data will be easily transferred to my original papers by those who possess copies.

20.

1871. GOEBEL, H. "Eine Reise von Petersburg nach Archangelsk über Tver, Jaroslav, Vologda und Ustjug vom 8. Mai bis 1. Juni 1864." (*Journal für Ornithologie*, 1871, pp. 20-27.) S.C.

88 species are noted from the S.C. District (some, however, of doubtful record), besides others from the Archangel district*.

21.

1853. ZERRENNER, DR. CARL. "Erdkunde des Gouvernements Perm." (Fünf. Abset.-Vogel. &c. Seite 309-319.) S.E.

Some 26 species are mentioned, besides domestic species, from localities within our limits, and notes on them given.

22.

1870. SABANÄEFF, LEONIDA. "Preavaritelnoi Oscherk Faunoi Posvonoschnoëch Srednyago Oorala." (*Bull. Mosc.* xlii. 1870, pp. 185-197.) S.E.

From a translation of the above paper on the avifauna of the Ural, by Mr. F. C. Craemers, and obligingly put at my disposal by Seebohm, just before his departure for the Yenesei, March 1, 1877, I am able to fill up the list of species in the S.E.

Sabanäeff mentions 176 species as occurring at localities within our limits, besides 24 others which very possibly may occur also, though at present they are only recorded from localities close to our southern boundary in Perm, or have been recorded from our NORTHERN DIVISION.

23.

1875. MEVES, W. "Brutplätze seltener europäischen Vögel." (*Journal für Orn.* 1875, pp. 428-434†.)

References are made in this paper to occurrences of species in the NORTHERN DIVISION of Russia, as well as in the Ural

* *Vide* also No. 10 of original list for another paper by Herr Goebel, relating to the same journey after reaching Archangel.

† Dr. Meves of Stockholm informs me that he has ready for publication a detailed account of his journey to the South-eastern Ural, which, when published, will doubtless clear up many points which I am obliged to leave doubtful in this paper. His researches, however, scarcely include any part of our Southern Division, having more direct reference to those portions between 57° and 55° N. lat.

south of Perm, and on the Kama river, and will prove useful in studying the distribution of species in the east of Russia in Europe*.

The following Tables are given to show :—1st, the faunas, as far as at present recorded, of the three districts of the SOUTHERN DIVISION ; and, 2nd, that of the NORTHERN DIVISION as compared with that of the SOUTHERN DIVISION. This latter must be considered in its present state as somewhat arbitrary, and cannot be held to clearly represent the faunal relations of the two DIVISIONS : nor can we expect to institute an exact and faithful comparison until our knowledge of the faunas of the *terrac incognite* of these DIVISIONS becomes more complete.

In Table I., as with the NORTHERN DIVISION, I have given a place to every record, whether fully authentic or not ; and later I have treated of the doubtful records and rare occurrences in *notes*, to which references are given in the Tables. Under these notes, also, will be found references to Table II.

In Table II., in cases where I have considered the data insufficient to generalize from, as regards the ascertained faunal value of the species *throughout* the DIVISIONS, I have, in some cases, only entered the symbol for simple “presence,” and in other cases, where required for further elucidation, the additional symbols for “locally” (⊙) and “generally distributed” (○). Further exploration in the unworked parts of the DIVISIONS will help us to arrive at more accurate and minute registration in this comparison than is at present attainable.

The Seasonal Distribution in Table II. is shown as far as I have data. Where I have no data, or where doubt occurs, I omit it (*vide* Symbols).

* Besides the above, the following papers should be mentioned as bearing upon our subject. Where necessary I have referred to these in footnotes.

General subject.

1874. PALMÉN, Prof. J. A. Om foglarnes flyttningsvägar. Helsingfors.
 1876. IDEM. ‘Ueber die Zugstrassen der Vogel ;’ von J. A. Palmén, Do-cent der Zoologie an der Universität Helsingfors. Mit einer lithogra-phirten Tafel. Leipzig : Engelmann, 1876. (*Vide* also ‘Nature,’ 1877, p. 465.)
 1856. MIDDENDORFF, VON. ‘Die Isepiptesen Russlands,’ &c. Petersburg.
 1868. SABANÄEFF, L. “Materialoïdha Faunoï Jaroslavski guberni.” (Bull. Soc. Imp. Nat. Mosc. 1868, pp. 234-279, 487-524, and vol. xli. pp. 202-243, 383-405.)
 1870. FISCHER, VON. “Die Vögel des St. Petersburger Gouvernement.” (Dér Zool. Garten, von Dr. F. C. Noll, Bd. x. S. 336, and Bd. xi. S. 344.)

Explanation of the Symbols and Arrangement in the following Tables.

Insufficient data, or unrecorded, or ascertained absence, a space left blank. Present, |. Rare, ·|. Common, ||. Very common, ††. Very abundant, †††. Once, twice, or thrice seen, and added to the fauna without doubt, /, //, ///. Generally distributed, ○. Locally distributed, ⊙. Sporadic, accidental, *. Resident, r. Summer visitant, s. Migrant, passing northwards in spring, /|. Migrant, passing southwards in autumn, \|. Winter, w.

Species which are of extremely doubtful occurrence in any part of the NORTH OF RUSSIA (which can scarcely be admitted at all to the fauna) have their names enclosed in brackets and are not numbered (example, *Fulco sacer*, in Table). Those species which were thus enclosed in the last part of this paper as of extremely doubtful occurrence in the NORTHERN DIVISION, but which can distinctly be admitted to the fauna of the SOUTHERN DIVISION *have the brackets removed*, and become entitled to a number preceding them (vide *Totanus stagnatilis*, in Table). As in Part II. the number of the authority who gives a doubtful record (for the SOUTHERN DIVISION) is also enclosed in brackets, thus (20).

In the "Reference to Authorities" column, I have also thought it advisable to use square brackets upon occasions, especially round Sabanäeff's No. 22, thus [22]. This indicates the probable or possible occurrence of certain species within the limits of the SOUTHERN DIVISION, according to authors' showing, which species are known to occur close to our southern boundary, or which are known to have occurred north of our northern boundary. As this cannot, however, admit them to positive record, I do not give them place in the district columns. In other words, the square brackets simply indicate such species as may still be expected to occur in the SOUTHERN DIVISION.

In the column for the consecutive numbers which precede the names of the species:—

Roman (or ordinary thin) type distinguishes such species as are common to the two DIVISIONS; and with these are included such as have certainly occurred in one or other DIVISION (*but in which is still uncertain*¹).

Clarendon (or thick) type is used to distinguish the species which occur in the NORTHERN DIVISION, but not in the SOUTHERN.

Old-cut type (*e.g.* 3) is used to distinguish those which occur in the SOUTHERN DIVISION, but not in the NORTHERN. Doubtful records are not taken notice of in these distinctions.

And, as already explained, such species as are totally rejected have no number printed before them.

¹ For a list of these, *vide* Summaries, *infra*, page 201.

Tables showing (1) *Distribution of the Fauna in the three Districts of the SOUTHERN DIVISION (Table I.),*
 (2) *Comparison of the Faunas of the NORTHERN and SOUTHERN DIVISIONS (Table II.).*

TABLE I.					TABLE II.		
Species.	S.W. 30° to 40° E., 60° and 64½° N. between	S.C. 40° to 50° E., 59° and 64½° N. between	S.E. 50° to 60° E., 58° and 64½° N. between	Reference to Authorities in foregoing List.	Refer- ence to Notes.	Northern Division.	Southern Division.
1. <i>Vultur fulvus</i> , <i>Briss.</i>			—	22.		—	* S.
2. <i>Aquila chrysaetus</i> , (<i>L.</i>) ¹	✓	—	—	20, 22.	1	—	• R.
3. — <i>clanga</i> , <i>Pall.</i>	—	—	—	22, 23.		—	• R.
4. <i>Haliaetus albicilla</i> , (<i>L.</i>)	—	—	—	8, 19, 20, 22.	2	—	• S.
5. <i>Pandion haliaetus</i> , (<i>L.</i>)	—	—	—	5, 8, 20, 22.		—	• S.
6. <i>Buteo vulgaris</i> , <i>Bechst.</i>	—	—	—	4, 8, 19, 20, 22.		—	• S.
7. — <i>desertorum</i> , <i>Daud.</i>				22.		*	
8. — <i>lagopus</i> , <i>Brünn.</i>		—		19, 20, [22]	3	—	• S.
9. <i>Pernis apivorus</i> , (<i>L.</i>)	—		—	4, 8, 22.	4	*	• S.
(<i>Milvus iclinus</i> , <i>Savign.</i>) ²				[22].	4	?	
11. — <i>migrans</i> , <i>Bodd.</i>	—	—	—	4, 8, 19, 20, 22.		—	• S.
12. <i>Falco gyrfalco</i> , <i>Schleg.</i>		—	—	22.		—	• R.
(— <i>sacer</i> ?)						()	
14. — <i>peregrinus</i> , <i>L.</i>			—	5, 22.		—	• S.
15. — <i>subtuteo</i> , <i>L.</i>	—	—	—	4, 5, 8, 19, 20, 22.		—	• S.
16. — <i>vespertinus</i> , <i>L.</i>	—	—	—	4, 8, 19, 20, 21, 22.		—	• S.

TABLE I. (continued).						TABLE II. (cont.).	
Species.	S.W. 30° to 40° E., 60° and 64½° N.	S.C. 40° to 50° E., 59° and 64½° N.	S.E. 50° to 60° E., 58° and 64½° N.	Reference to Authorities in foregoing List.	Refer- ence to Notes.	Northern Division.	Southern Division.
41. <i>Yunx torquilla</i> , L.....	?	≡	—	8?, 19, 22.	9	* s.	·† s.
42. <i>Cuculus canorus</i> , L.....		—		4, 8, 19, 21, 22.		†† s.	†† s.
43. <i>Sturnus vulgaris</i> , L.....	?	—	·†	8?, 19, 21?, 22.	10	* s.	·† s.
44. <i>Passer domesticus</i> , (L.)		—	—	4, 5, 8, 19, 20, 22.	11	R.	R.
45. ——— <i>montanus</i> , (L.).....		—	—	4, 8, 19, 20 [22].	12	†† R.	R.
46. ——— <i>petronius</i> , (L.)	—	—	—	19.		·† s.	·† s.
47. <i>Pyrhula major</i> , <i>Brehm</i>	—	—	—	5, 8, 19, 22.	13	?	O R.
48. <i>Carpodacus erythrinus</i> , (<i>Pall.</i>).....	—	—		4, 8, 19, 20, 22.		·† s.	O R.
49. <i>Corythus enucleator</i> , (L.) ¹	?	?	—	5, 8.		†† s.	·† O
50. <i>Loxia curvirostra</i> , L. ²	—	—	—	5, 8, 19, 21, 22.		R.	R.
51. ——— <i>bifasciata</i> , (<i>Brehm</i>)	?	—	—	8, 19, 20.		R.	R.
52. ——— <i>pityopsittacus</i> , <i>Bechst.</i>	*	—	—	8,		✓	*
53. <i>Coccothraustes vulgaris</i> , <i>Pall.</i>	—	—	—	8, 19, [22].		s.	s.
54. ——— <i>chloris</i> , (L.)		—	—	4, 5, 8, 19, 20, 22.		s.	s.
55. <i>Fringilla cœlebs</i> , L.		—	—	4, 5, 8, 19, 20, 22.		s.	s.
56. ——— <i>montifringilla</i> , L.	—	·†	·†	8, 19, 21, 22.		·†	·† R.
57. <i>Carduelis elegans</i> , (L.).....	—	—	—	4, 8, 19, 20, 21.		·† s.	s.
58. ——— <i>spinus</i> , (L.) ³	—	—		0 10 02		·† s.	·† s.

TABLE I. (*continued*).

TABLE I. (*continued*).

TABLE II. (*cont.*).

Species.	S.W. 30° to 40° E., between 60° and 64½° N.	S.C. 40° to 50° E., between 59° and 64½° N.	S.E. 50° to 60° E., between 58° and 64½° N.	Reference to Authorities in foregoing List.	Refer- ence to Notes.	Northern Division.	Southern Division.
82. <i>Emberiza citrinella</i> , L. ¹				4, 5, 8, 19, 22.	22	R.	R.
83. — <i>rustica</i> , <i>Pull.</i>	—	—	—	5, 8, [22].		s.	
84. — <i>pusilla</i> , <i>Pull.</i>	††			4, 5, 8, [22].		†† o s.	†† s.
(— <i>pithyornis</i> , <i>Pull.</i>) ²			()	()		()	()
86. — <i>schenicus</i> , L.	—	—		8, 19, 22.	23	s.	s.
87. <i>Plectrophanes nivalis</i> , (L.)		—	††	19, 22.	24	†† s.	^ V ?
88. — <i>lapponicus</i> , (L.)		—	††	19, 22.	24	†† s.	^ V ?
89. <i>Alauda arvensis</i> , L.		—	—	8, 19, 20, 21, 22.	25	o s.	o s.
90. — <i>arborea</i> , L.	—	—	—	8, 19, 20.			—† s.
91. — <i>alpestris</i> , L.	—	—	—	19, [22].		s.	o ^ V
92. <i>Anthus trivialis</i> , (L.)	—	—	††	4, 5, 19, 22.		s.	s.
93. — <i>pratensis</i> , (L.)	—	—		4, 8, 22.		s.	s.
94. — <i>cervinus</i> , <i>Pull.</i>			—	5, 22.		†† s.	o s.
95. — <i>spioletta</i> , (L.)			—			—	—
96. — <i>obscurus</i> , <i>Penn.</i>			—			o s.	s.
97. — <i>Gustavi</i> , (<i>Swinhoe</i>)			—			s.	s.
98. <i>Budytes viridis</i> , (<i>Gmel.</i>)			?	4, 8, 19, 22 ?	26	s.	s.
99. — <i>flavus</i> , (L.) ³	—	?	?	[22 ?].		†† o s.	s.

102. — alba, L.			4, 5, 8, 19, 22.	†† s.
103. Cinclus melanogaster, (Temm.)....		—	5, 21, 22.	—
104. Oriolus galbula, L. ⁴	†	—	4, 8, 19, 22.	* s.
105. Turdus merula, L.				—
106. — torquatus, L.			[22].	—
107. — pilaris, L.			4, 5, 8, 19, 20, 21, 22.	s.
108. — visivorus, L.			4, 8, 20, 22.	†† s.
109. — iliacus, L.			4, 8, 19, 20, 22.	?
110. — fuscatus, Pall. ⁵		††	5, 22.	s.
111. — musicus, L. ⁶	†	††	4, 5, 8, 19, 20, 22.	†† ⊙
112. Erythaca rubecula, (L.) ⁷		—	8, 19, 20, 22.	s.
113. Cyanecula suecica, (L.)	—	††	5, 8, 19, 20, 22.	—
114. Ruticilla phoenicea, (L.)		—	4, 5, 8, 19, 20, 22.	s.
115. Saxicola cinerascens, (L.)		—	4, 5, 8, 19, 20, 22.	s.
116. Pratincola rubetra, (L.)			4, 8, 19, 21, 22.	s.
(— rubicola, (L.))		?	5 ² , 22 ² ?	()
118. — indica, Blyth		—	5 ² , 22 ² ?	⊙ s.
119. Accentor modularis, L.	†		8, 19, 22.	—
120. — montanellus, Pall.		—	22.	s.
121. Sylvia garrula, Briss.			8, 19, 22.	—
122. — rufa, (L.)		—	4, 8, 22 ² ?	† s.
123. — atricapilla, (L.)		—	8.	—

¹ *Emberiza citrinella*, resident near Pinega, *auet.* Goebel (No. 10). r. ? in south of Vologda (Mejakoff, No. 19).

² *Emberiza pithyornis*. Midd. (*op. cit.* p. 1046, note 7) says that Pallas found this species in the Ural. I find no other record.

³ *Budytes flavus*—Dresser (B. of Europe, part xl.), *loc. cit.* 'Wiborgs Län.'

⁴ *Oriolus galbula*, 61⁵⁰ N. lat., on the Kama (Middendorff, 'Die Isepiptesen Russlands,' p. 44).

⁵ *Turdus fuscatus*: for notes see Part II., 'Annals,' July, p. 21.

⁶ *Turdus musicus*, see Part II., l. c. p. 21.

⁷ *Erythaca rubecula*, see Part II., l. c. p. 22.

TABLE I. (continued).

Species.	TABLE I. (continued).				Reference to Authorities in foregoing List.	Reference to Notes.	TABLE II. (cont.).	
	S.W. 30° to 40° E., 60° and 64½° N.	S.C. 40° to 50° E., 50° and 64½° N.	S.E. 50° to 60° E., 58° and 64½° N.				Northern Division.	Southern Division.
168. <i>Columba livia</i> , Briss.					22.	35		—
169. — turtur, L.		†	—	—	19, 22.			† s.
170. <i>Syrhaptes paradoxus</i> , Pall.							≡	†† R.
171. <i>Lagopus albus</i> , (Gm.).	—	—	††	††	5, 8, 19, 20?, 22.		†† R.	†† R.
172. — mutus, Leach ¹				≡	5, 21, 22.		—	≡ R.
173. <i>Tetrao urogallus</i> , L.	—	—	—	—	5, 8, 19, 20, 21, 22.	36	≡ R.	≡ R.
174. — urogallo-tetrix, (Sund.).		—	—	—	19, 22.		—	—
175. — tetrix, L.		—	—	—	5, 19, 20, 22.		—	—
176. — bonasia, (L.)	—	—	≡	≡	5, 8, 19, 20, 22.		†† R.	≡ R.
177. <i>Perdix cinerea</i> , Charl. ²	—	—	—	—	8, 19, 22.		—	—
178. <i>Coturnix communis</i> , Bonmat.	—	≡	—	—	8, 19, 22.	37	† s.	—
179. <i>Glareola pratincola</i> , (L.)			—	—	19, 22.		≡ s.	≡ s.
180. <i>Squatarola helvetica</i> , Briss.	—	—	—	—	5, 8, 22?		†† s.	—
181. <i>Eudromias morinellus</i> , (L.)	—	—	—	—	5, 8, 11, 19, 20, 22?		—	—
182. <i>Charadrius plumialis</i> , (L.)	—	—	—	—	4, 8, 20, 21, 22.		†† s.	≡ s.
183. <i>Ægialites hiaticula</i> , (L.)	—	—	—	—	4, 5, 8, 11, 19, 20, 22.		≡ s.	—
184. — curonicus, Besecke	—	—	—	—	4, 8, 11, 19, 20, 21, 22.		† s.	≡ s.
185. <i>Vanellus cristatus</i> , M. & W. ³	≡	††	—	—	19, 20, 21, 22.		* s.	≡ s.
186. <i>Hematopus ostralegus</i> , (L.) ⁴		—	—	—			†† s.	† s.

187. <i>Streptopelia interpres</i> , (L.)		—	4, 8, 11, 19, [21], 22.	† s.	s.
188. <i>Grus cinerea</i> , Bechst.	—	—	4, 8, 11, 19.	s.	† s.
189. <i>Ardea cinerea</i> , L.	—	†	4, 8, 11.	—	† s.
190. <i>Botaurus stellaris</i> , (L.)	—	—	19, 21, [22].	—	—
191. <i>Ciconia nigra</i> , L. ⁵	—	—	—	*	s.
192. <i>Platalea leucorodia</i> , L.		—	4, 8, 11, 19.	s.	s.
193. <i>Numenius arquata</i> , (L.)	—	—	8, 11, 19, 20, 22.	s.	—
194. — <i>pheopus</i> (L.)	—	—	8, 21, 22.	*	s.
195. <i>Limosa egocephala</i> , (L.) ⁶	—	?	8, 11, 20 ² , 22 ²	—	† s.
196. — <i>lapponica</i> , (L.)	—	—	8, 11, 19, 22.	† s.	
197. <i>Scolopax rusticola</i> , (L.)	—	—	5, 8 ² , 11, 19, 22.	†† s.	†† s.
198. <i>Gallinago major</i> , (Gm.) ⁷	—		8, 11, 19, 20, 22.	s.	s.
199. — <i>gallinaria</i> , (Gm.)			5, 11, 19, 22.	† s.	—
200. — <i>gallinula</i> , (L.) ⁸	—	—	11.	† s.	—
201. <i>Calidris arenaria</i> , (L.)	—	—	22.	† s.	—
202. <i>Tringa canutus</i> , L.	—	—	—	† s.	—
203. — <i>maritima</i> , Bräm.	—	—	—	† s.	—
204. — <i>subarquata</i> , (Güld.)	?	—	8 ² , 20.	† s.	† s.
205. — <i>alpina</i> , L. ⁹	—	—	11, 22.	†† s.	—
206. — <i>minuta</i> , Leisl.	—	—	11, 20, 22.	s.	s.

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¹ *Lagopus mutus*, vide Part II. 'Annals,' July 1877, p. 24.² *Perdix cinerea*, Ladoga Sea, 62° N. lat., *aut.* Midd. (Die Th. Sib. p. 1029, footnote 9).³ *Fanellus cristatus*. Also *aut.* Zerrenner (21).⁴ *Heandtopus ostralegus*. For a peculiar nesting-site in the S.E. see Zerrenner (21).⁵ *Ciconia nigra*, south of the Government of Perm, *, *aut.* Zerrenner (21).⁶ *Limosa egocephala*, only a migrant passing north, *aut.* Zerrenner, in the S.E. (21).⁷ *Gallinago major*. Also 67° N. lat., *aut.* Midd. (Die Th. Sib. p. 1030, footnote 2).⁸ *Gallinago gallinula* breeds in North Division, *aut.* Goebel (No. 10).⁹ *Tringa alpina* breeds on Olva River, *aut.* Teplonhoff, *fide* Sabanäeff (22).

TABLE I. (continued).

Species.	TABLE I. (continued).				Reference to Authorities in foregoing list.	Reference to Notes.	TABLE II. (cont.).	
	S.W. 30° to 40° E., between 60° and 64½° N.	S.C. 40° to 50° E., between 59° and 64½° N.	S.E. 50° to 60° E., between 58° and 64½° N.				Northern Division.	Southern Division.
207. <i>Tringa Temminckii</i> , <i>Leisl.</i>	—	—	—	—	8, 20, 22.	38	†† s.	— s.
208. <i>Limicola platyrhynchos</i> , <i>Ten.</i>	—	—	—	—	8, 11, 19, 20, 22.		† s.	— s.
209. <i>Totanus canescens</i> , (<i>Gm.</i>)	—	—	—	—	8, 11, 22.		†† s.	— s.
210. — <i>fuscus</i> , (<i>L.</i>)	—	—	—	—	8, 11, 19, 22.		†† s.	— s.
211. — <i>calidris</i> , (<i>L.</i>)	—	—	—	—	22.		()	— s.
212. — <i>stagnatilis</i> , <i>Bechst.</i>	—	—	—	—	8, 20, 22.		†† s.	— s.
213. — <i>glareola</i> , (<i>L.</i>)	—	—	—	—	8, 19, 20, 22.		— s.	— s.
214. — <i>ochropus</i> , (<i>L.</i>)	—	—	—	—	4, 11, 19, 20, 22.		†† s.	— s.
215. <i>Terekia cinerea</i> , (<i>Güld.</i>)	—	—	—	—	5, 8, 11, 19, 20, 22.		†† s.	— s.
216. <i>Actitis hypoleucos</i> , (<i>L.</i>)	—	—	—	—	8, 11, 19, 20, [22].		†† s.	— s.
217. <i>Recurvirostra avocetta</i> , <i>L.</i>	—	—	—	—	22.		†† s.	— s.
218. <i>Machetes pugnax</i> , (<i>L.</i>)	—	—	—	—	4, 8, 11, 19, 22.		†† s.	— s.
219. <i>Himantopus caudatus</i> , <i>Bonnat.</i>	—	—	—	—	4, 8, 11, 19, 22.		†† s.	— s.
220. <i>Phalaropus hyperboreus</i> , (<i>L.</i>)	—	—	—	—	19.		†† s.	— s.
221. <i>Orex pratensis</i> , <i>Bechst.</i>	—	—	—	—	11, 19, 21, 22.		†† s.	— s.
222. <i>Ortygometra porzana</i> , (<i>L.</i>)	—	—	—	—	11, 20, 21, 22.		†† s.	— s.
223. <i>Gallinula chloropus</i> , (<i>L.</i>)	—	—	—	—			†† s.	— s.
224. <i>Fulica atra</i> , <i>L.</i>	—	—	—	—			†† s.	— s.
225. <i>Anser cinereus</i> , <i>Meyer</i> ¹	—	—	—	—			†† s.	— s.

TABLE I. (continued).					TABLE II. (cont.)	
Species.	S.W. 30° to 40° E. 60° and 64½° N.	S.C. 40° to 50° E., 59° and 64½° N.	S.E. 50° to 60° E., 58° and 64½° N.	Reference to Authorities in foregoing List.	Reference to Notes.	
250. <i>Somateria spectabilis</i> , (L.)						
251. — <i>Stelleri</i> , (Pall.)						
252. <i>Oedenia nigra</i> , (L.)	—		—	5, 11, 22.	† s.	
253. — <i>fusca</i> , (L.)	†		††	11, 22. 22.	†† s.	s.
254. <i>Mergus merganser</i> , L.					s.	s.
255. — <i>serrator</i> , L.	—	—		8, 19, 20, 22.	s.	s.
256. — <i>albellus</i> , L.	—		††	8, 11, 20, 22.	s.	s.
257. <i>Podiceps griseigena</i> , (Bodd.)	—			8, 11.	s.	s.
258. — <i>auritus</i> , L.	—		—	5, 8, 11, [22].	s.	s.
259. — <i>cristatus</i> , (L.)	—		?	8, 21, [22].	()	s.
260. — <i>minor</i> , <i>Lth.</i>	—	—	—	8, 11.	†† s.	s.
261. <i>Colymbus arcticus</i> , L.	†		—	4, 11, 22.	†† s.	s.
(— <i>glacialis</i> , L.)	()			(12).	†† s.	()
263. — <i>septentrionalis</i> , L.	—		—	4, 8, 11, 22.	†† s.	s.
264. <i>Alca torda</i> , L.					R.	R.
265. <i>Fratercula arctica</i> , L.					R.	R.
266. <i>Uria troile</i> , (L.)					R.	R.
267. — <i>lomvia</i> , (L.)					R.	R.

B. SUMMARY UP TO DATE FOR SOUTHERN DIVISION*.

We have in the whole of the Southern Division of North Russia records of 242 species. Of these there are three of very doubtful nature, which are distinguished in the column for the Southern Division in Table II. by being enclosed in brackets, and nine more, which must be considered more or less doubtful also. This leaves records of 230 species, which may for present purposes be classed as authentic. These records (authentic and doubtful) are distributed in the three districts as follows:—

(N.B. Spaces are left in the columns for future summaries.)

SOUTHERN DIVISION.

	S.W. District.				S.C. District.				S.E. District.				S. Division.
	Authentic.	Doubtful.	Very doubtful.	Total	Authentic.	Doubtful.	Very doubtful.	Total.	Authentic.	Doubtful.	Very doubtful.	Total.	Total Authentic.
Up to date. 1877	168	7	3	178	158	8	0	166	176	14	2	192	230

C. SUMMARY FOR WHOLE OF NORTH RUSSIA.

In North Russia, north of the boundaries defined we have total records of 290 species. Of these there fall to be deducted 9† species of more or less doubtful nature. This leaves records of 281 species, which may be considered authentic. These 281 *authentic* records are distributed in the Divisions as follows:—

* For Summary A, see Part II. l. c. p. 28.

† Viz. *Milvus icinus*, *Fulco sacer*, *Athene noctua*, *Pratincola rubicola*, *Locustella certhiola*, *Phylloscopus neglectus*, *Colymbus glacialis*, *Acrocephalus palustris*, and *Emberiza pithyornis*.

TOTAL IN NORTH RUSSIA, 281.

Northern Division..... 230		Southern Division..... 230.	
Found in both.	In North, not in South.	In South, not in North.	Uncertain in which Division.
177	48	54	2*

NOTES AND CRITICISMS OF DOUBTFUL RECORDS IN PART III.

(1) *Aquila clanga*, Pall. No. 3 in Tables.

Barely reaches 60° N., as Sabanäeff (22) † tells us that it is not found further north than Bogoslaïfsk, which is just under the 60th parallel. In the S.W. District we have record of one specimen shot in September 1871, at Oschta, on the Onega Sea, and which is now in the University Museum, St. Petersburg, where it was seen by Meves (23, p. 433).

Obs.—*Aquila nobilis*, Pall., perhaps occurs at Bogoslaïfsk (*vide* No. 22, Sabanäeff). Both forms (*A. nobilis*, Pall., and *A. chrysaëtus*, L., = *fulva*.) are included in Sabanäeff's list—the former, however, recorded from a more northerly locality (Pavda) than the latter. I have not considered it necessary, however, to separate them. For further remarks on the different forms of *A. chrysaëtus*, L., *vide* Dresser's "Notes on Severtzoff's 'Fauna of Turkestan'" ('Ibis,' 1875, p. 99).

(2) *Pandion haliaëtus* (L.). No. 5 in Tables.

This species is recorded by Mejakoff (19) as very common in the neighbourhood of Lake Koubenskoie, but rather rare in the northern districts. Meves found it between Ladoga and Archangel; Alston and I found a nest at Archangel ('Ibis,' 1873); and Seebolin and I found it at Habariki, on the Petchora. It is, according to Mejakoff, only a summer visitant even in the south of Vologda.

(3) *Buteo lagopus*, Brünn. No. 8 in Tables.

Sabanäeff says, quoting Hoffman-Brandt, "Further to the north [than the Ekaterineburg district, J. A. II. B.] it again

* *Viz. Asio otus, Emberiza melanocephala.* There are several others which ought, perhaps, to be classed with these, such as *Himantopus candidus*, *Avocetta recurvirostra*, and a few more. Such can be deducted from the number in column 1 (in above summary) and added to those in column 4.

† The numbers here and elsewhere in these notes refer to the "List of Authorities," as in the Tables.

reappears in the Ural Mountains." I find, however, no positive record of it in our SOUTHERN DIVISION, Hoffman's record applying to between 66° and 67° N. lat. Sabanäeff's record is therefore only given in the column of "Reference to Authorities," and is enclosed in *square* brackets [22]. Von Baer (Bull. Ac. Sc. N. St. Pétersb. t. iii. no. 22) records it even as far north as Kostin Schar ($71\frac{1}{2}^{\circ}$ N. lat.); but Middendorff considers this doubtful (No. 1, p. 201, footnote). Seebohm and I found it, however, on the Petchora up to $66^{\circ} 13'$ N. lat. (No. 13, and *vide* Part I., 'Annals,' April 1877, p. 283).

(4) *Pernis apivorus* (L.). No. 9 in Tables.

Lilljeborg (4) records it as common in all the woods from Ladeinapole to the Dvina; Meves (8) saw a solitary example at Schlusselfburg; but it is not included at all by Mejakoff in his list (19).

Obs.—*Milvus ictinus*, Savig. Sabanäeff (22) states that he has seen several "red kites," amongst hundreds of *Milvus ater* flying towards some dead animals in the Kaslinsk Ural (further to the S.E. of our limits). Read also notes on this species in Part II.

(5) *Falco tinnunculus*, L. No. 18 in Tables.

Its northernmost range would appear to be just within our limits in the S.E. District. Sabanäeff (22) tells us that it increases in numbers towards the south from that latitude. Dr. Radakoff ('Hand-Atlas der geogr. Ausbreitung,' *Falco tinnunculus*; *vide* Part II. of this paper, 'Annals,' July 1877, p. 8) marks its distribution north to Bogoslawsk*.

(6) *Accipiter nisus* (L.). No. 20 in Tables.

This species is recorded by Mejakoff as rarely seen in the south of Vologda, and then only at the commencement of winter. These are probably birds migrating southwards from more northerly localities, where, however, as far as at present known, they are far from common (*vide* Part II., 'Annals,' July 1877, p. 10), very few records being given of their occurrence to the northward.

* Regarding its distribution in the north of Europe and Asia *vide* Middendorff ('Die Th. Sib.' p. 1028, footnote 3), quoting from 'Naumannia,' 1854, p. 67, where it is stated that *F. tinnunculus* goes to the neighbourhood of the 'Eismeer' in Siberia as in Europe. Dr. Radakoff shows this in his map of the species in Norway and in North Siberia.

(7) *Circus æruginosus* (L.). No. 22 in Tables.

Goebel (10) includes this amongst those seen (?) at or near Archangel; and Meves (8) observed it both near Archangel (*vide* Part II. notes, 'Annals,' July 1877, p. 18) and at Ptino-Ostrov, in Ladoga Sea.

(8) *Picus minor*, L. No. 37 in Tables.

Sabanäeff (22) says of this species that it does not apparently go so far north as *P. major* and *P. leuconotus* in the Ural, nor does he consider it so common there as these other species. Seeböhm and I, however, found it common on the Lower Petchora as far north as Viski (67° 15' N.), to the exclusion of other species of Woodpecker (*vide* Part I., 'Annals,' April 1877, p. 284).

Obs.—*Picus leuconotus*, L., *Picus cirris*, Pall. (Sundev.), with unspotted white underside, and the under tail-coverts suffused with pale red, was found not commonly in the Ural by Meves (No. 23, p. 432). We have, however, no distinct authority to admit this form into our present district, Herr Meves not having been so far north in Perm*. The statement in Meves's paper [23], that he found typical *P. leuconotus* in S.E. Russia, is a mistake, owing to a misprint for N.W. Russia (Meves, *in lit.* April 1877).

(9) *Yunx torquilla*, L. No. 41 in Tables.

The only record I am at present able to find for the S.W. is the one given by Meves as shot at Cholmogory; but as this comes to be included in the N. DIVISION, I mark it with a query here. Mejakoff records it as rather rare in the south of Vologda, in the S.C. District, having only shot two specimens.

(10) *Sturnus vulgaris*, L. No. 43 in Tables.

Has occurred at St. Petersburg (Meves, 8, and Fischer, *Die Vögel des St. Petersburger Gouv.*); but its range northwards is only occasional (*vide* Part II. *l. c.*). It appears just to reach our fauna in 60° N. in the east, at Pavda (Sabanäeff, No. 22).

* His route was by St. Petersburg, Moscow, Perm, Kungur, Ekaterineburg, and thence southward to the river Mjes; and his researches were confined to the districts lying between 57° and 55° N. lat.

(11) *Passer domesticus*, L. No. 44 in Tables.

The somewhat peculiar comparative distribution of these two species has elsewhere been remarked upon ('Ibis,' 1876, p. 114; *vide* also Proc. Glasg. Nat. Hist. Soc. 1876, pp. 49, 53). For northern range in the N.E. see Part I. of this paper (*l. c.* p. 285).

(12) *Passer montanus* (L.). No. 45 in Tables.

Is remarked as being more plentiful than *P. domesticus* at Ustjug, in the S.C. District, by Goebel (20, p. 24), the contrary of Seebohm's and my experience throughout the district between Vologda and Archangel, in March 1875*. Herr Goebel's observations were made between May 8 and June 1. Sabanäeff (22) excludes it from the northern parts of Perm; but, on the other hand, Seebohm and I found it plentiful at Ust Zylma and north as far as Kuya (67° 45'), whilst even a straggler was obtained at Stanovaya Lachta, still further to the northward (*vide* Part I. *l. c.* p. 285).

(13) *Pyrrhula major*, Brehm. No. 47 in Tables.

Mejakoff (19) records this as occurring in the south of Vologda only in winter, arriving in September and leaving in March. It is doubtful, therefore, if we can consider it as a resident species at Ust Zylma (65° 26' N. lat.). Seebohm and I found it common there, on our arrival, in the middle of April, and still more commonly about 25 versts to the south-west at Umskaia. In the Ural, Hoffman (5) found it in 64½° N. lat. Being one of the species which winter only a very short distance south of its breeding-haunts, and with Mejakoff's note to guide us, we may perhaps rightly consider that it had preceded our arrival at Ust Zylma by a fortnight or three weeks. At Archangel we met with this species as early as the 18th March. It seems to be rare in the South-east Ural (Sabanäeff, 22).

(14) *Upupa epops*, L. No. 60 in Tables.

This is recorded as occurring at Pavda by Sabanäeff (22); and he mentions one as having been shot. He remarks, however, that it is not found there every year. Dr. Radakoff (*tom. cit.*, *Upupa epops*, *vide* Part II., 'Annals,' July 1877, p. 8) does not extend its distribution beyond Ekaterineburg in his map of the species.

* J. A. H. B.'s Journals in MS., 1875.

(15) *Corvus corone*, L. No. 64 in Tables.

Auct. Goebel (No. 20, p. 24)? Middendorff also says ("Die Thierwelt Sibiriens," p. 1029, footnote 3) that it is found at Ladoga Sea, quoting 'Naumannia,' 1852, p. 103; and Lilljeborg saw one at Ladeinopole (No. 4, p. 288), in the S.W. District.

(16) *Corvus monedula* and *C. dauricus*, Pall. No. 66 in Tables.

Sabanäeff (22) separates these as species, and shows that their distribution is somewhat different, *Corvus monedula* being rarer in the north and more abundant in the south (in the Bashkir birch-woods) and *C. dauricus*, Pall. (= *C. collaris*, Drummond), being commonest in the north. I have not, however, thought it advisable to separate them. I have marked *C. monedula* resident in the NORTHERN DIVISION. It is, however, only a summer visitant to the N.E. District, but has of late years increased its distribution northwards and eastwards considerably. It is only of late years that it came to Mezén; and now it even winters there.

(17) *Corvus frugilegus*, L. No. 67 in Tables.

Is said also to occur at Ijma, 64° (22). One specimen was brought to us at Ust Zylma in 1875. A flock was seen, and specimens shot, at Archangel by Alston and myself (12); and though only a summer visitant to the SOUTHERN DIVISION, it would appear to be pushing its range northward. It was also observed by Middendorff on the Sommarudden coast of the White Sea in the N.W. District (1).

(18) *Nucifraga caryocatactes* (L.). No. 69 in Tables.

Compare Mejakoff's (19) statement with notes in NORTHERN DIVISION (Part II. *l. c.* p. 20). Its appearance at all in North Russia seems to be only sporadical, occurring in some seasons in flocks, and staying only a short time. Sabanäeff, however, records it as extremely abundant throughout Perm, especially in the north. There it is a summer visitant; but in Vologda, Mejakoff seems to consider it only an occasional migrant.

(19) *Garrulus glandarius* (L.). No. 72 in Tables.

I have also observed this species in travelling from St. Petersburg to Archangel, but not numerous. Sabanäeff

(22) says it is of wide distribution in Perm, but gives no positive record of its occurrence in the north of the Government. Meves, however, found *Garrulus Brandtii*, Eversm., not far from Perm and in the Ural (No. 23, p. 432); so Sabanäeff's record may perhaps be held to apply to this Eastern species. Zerrenner ('Erdk. des Gouv. Perm') states that it is rare, but present in all the districts of Perm; but it is doubtful if the record applies to *G. glandarius* vera, or to *G. Brandtii*.

(20) *Lanius excubitor*, L. No. 74 in Tables.

Generally considered as a bird of passage in the south of Vologda (Mejakoff), but has been shot by him both in February and November.

Obs.—Meves met with the Eastern form (*Lanius Ho-meyeri*, Cab.) between Kungur and Perm, not uncommonly (No. 23, p. 431). Vide also Dawson Rowley's Ornith. Misc. vol. ii. part vii. p. 272, for further remarks on this species by Col. Prjevalsky ("Birds of Mongolia").

Obs.—Dr. Meves has asked me to point out that the specimen of *Lanius phœnicurus*, Pall. (23, p. 428), was only a very red young ♂ of *L. collurio*. A query in his MS. had been omitted in the letterpress.

(21) *Linota exilipes*, Coues. No. 78 in Tables.

Sabanäeff (22) includes two species of Redpole as occurring in Perm, viz. *L. linaria* (L.) and *L. borealis*, Vieill. (? Audubon); and Hoffman likewise includes two species as occurring in the Northern Ural, viz. *L. linaria*, L., and *L. rubra*, Gesner. The second mentioned species of both authors will no doubt be referable to *L. exilipes*, Coues. Both *L. linaria*, L., and *L. exilipes*, Coues, are early spring migrants to the NORTHERN DIVISION.

(22) *Emberiza rustica* (Pall.). No. 83 in Tables.

Recorded for the S.C. District by Blasius (auct. Meves, 8, p. 744). The range of this species does not appear to be exactly defined in the S.E., although Sabanäeff (22) gives it as abundant in Perm, on the river Olva; and Hoffman (5) records a single example brought home by the Ural Expedition.

(23) *Emberiza schæniclus*, L. No. 86 in Tables.

Meves distinguishes specimens of the Reed-Bunting obtained by him in Perm as *Cynchramus intermedius*?, which

have the rump unspotted and plain grey. A comparison of specimens is required before it can be established as a species or otherwise.

(24) *Plectrophanes nivalis* (L.). No. 87 in Tables.

Fuller data are wanted to establish this as a breeding species in the S.E. Ural, though the probability is that they do breed in limited numbers (22). We have no data wherewith to establish it as a resident, as a passing migrant, or as a winter visitant; and the same remarks apply to the following species, *P. lapponicus*. For present purposes it may be as well to consider it only a migrant.

(25) *Alauda arvensis*, L. No. 89 in Tables.

According to information received by Sabanäeff (No. 22), this species has only lately appeared at Ijma, in 64° N. lat. Seeböhm and I met with it very rarely at Ust Zylma (65° 26' N.), where only one was obtained, and again at Viski (67° 15' N.), where a second was procured, the only ones met with in the N.E. District (*vide* Part I., 'Annals,' 1877, April, p. 285.

(26) *Budytes viridis* (Gmel.) and *Budytes flavus* (L.).

Nos. 98, 99 in Tables.

The range of these two species is as yet somewhat difficult to define. Mejakoff says *Budytes flavus* (Gmel.) occurs only in summer in the south of Vologda. This will, I believe, turn out to be really *Budytes flavus* *verus*. Sabanäeff's records (22) in Perm will more correctly apply perhaps to the northern form, *B. viridis* (Gmel.). Dresser ('Birds of Europe,' part xl.) found *B. flavus verus* in Viborg, within our S.W. District, and Von Fischer (*l. c.* p. 348) records it as breeding commonly in the St.-Petersburg Government.

(27) *Pratincola rubicola* (L.). No number in Tables.

Where this name is recorded by authorities in their papers on N. Russia, I have every reason to believe that it is almost invariably applicable to the eastern representative form, *P. indica*. Sabanäeff, for instance (No. 22), mentions it in the S.E. Ural; but the species found in Perm by Meves was *P. indica*, with, as he informs me, black axillaries.

(28) *Acrocephalus dumetorum*, Blyth, and *Acrocephalus palustris* (Bechst.). Nos. 128, 129 in Tables.

Sabanäeff (22) includes the latter as common in the S.E. Ural, and as having occurred at Pavda (58° N. lat.); but he

makes no mention of *A. dumetorum*, Blyth. Meves (23), on the other hand, speaks of *A. dumetorum* as common in the Ural, but says nothing of the presence of *A. palustris*, although he takes pains to notice the close resemblance of the two species and to discriminate between them. Again Dresser ('Birds of Europe,' part liii.) identifies two birds obtained by Sabanäeff in the Ural somewhat south of our limits, viz. at Ekaterineburg and Sinara, as belonging to *A. agricola*, Blyth, = *A. (Salicaria) capistratus*, Severtzoff, who found it east of the Caspian ('Ibis,' 1876, p. 84). Yet, again, Severtzoff (*l. c.*) mentions that *A. palustris* verus was also obtained on the east of the Caspian. There is then perhaps a possibility of all these three occurring within our districts. At present, however, I consider that most of the records refer to *dumetorum*; and in this Dresser, whom I consulted on the subject, agrees. I admit also *palustris* with a query, and for the present reject *agricolus*.

Since the above was written, a very clear account of the *Salicarie* of Dr. Severtzoff has appeared from Seeböhm's pen, in the 'Ibis,' 1877, p. 151.

Obs.—*Calamodus aquaticus* (Lath.). There is no positive record of its occurrence within our limits; but as Meves (23) found it in the S.E. Ural, it may perhaps be looked for yet in the Perm Government, further to the north.

(29) *Daulias lusciniæ* (L.). No. 134 in Tables.

Authors differ concerning its abundance or otherwise; but judging from their records, we may consider it common where recorded. The supposed occurrence of this species so far north as Archangel, however, recorded by Schrenck, is very rightly doubted by Middendorff ('Die Thierw. Sib.' p. 1048, footnote 6).

(30) *Locustella Hendersoni*, Cass. No. 136 in Tables.

Dresser informs me, *in lit.*, that the Grasshopper Warbler of the Ural is not our bird, but the small bright-coloured Indian bird, *L. Hendersoni*—which fact he has known for some time from specimens in his possession collected by Sabanäeff. This is then an addition to the European fauna.

Obs.—*Locustella certhiola*, Pall. Dresser writes me that he is doubtful of the occurrence of this species in S.E. Europe, although Temminck gives "Eastern Russia" as a locality.

(31) *Phylloscopus collybita* (Vieill.). No. 141 in Tables.

For reasons before given when treating of the NORTHERN DIVISION, it seems desirable that specimens of the Chiffchaff obtained in N.W. Russia should be carefully compared with type specimens of *P. tristis*, as there is a possibility of confusion existing between the two species. The probability is, however, that the former does occur in West Russia, reaching to perhaps 63° or 64° N. lat., but that specimens occurring further north than that belong to the Eastern species. *Vide* Part II. of this paper, 'Annals,' July 1877, p. 24; Lilljeborg, p. 273; and Mejakoff, p. 630, who gives it (under the name *Ficedula rufa*, Lath.) as rather rare even in the south of the government in the South-central District. Sabanäeff (No. 22) considers this statement of Mejakoff's as strange; but the species found by Meves east of Moscow was *P. tristis*, not *P. collybita*, which is the one Sabanäeff includes.

(32) *Regulus proregulus*, Pall. No. 146 in Tables.

The only record I find is Sabanäeff's, the bird from which Meves described his *Phyllopneuste Middendorffi* and figured it (8) being in the Petersburg Museum from Ochotsk. It is numbered 58, however, in Meves's list (p. 758), which is apt to mislead; and the same remark applies to his No. 59, also only seen in the Museum, and one or two more, which were better included under "Observations."

(33) *Troglodytes parvulus*, Roch. No. 148 in Tables.

Said by Sabanäeff (22), on the authority of a native, to occur at Ijma (64° N.), where it is known by the name "*pista*." I consider that more proof is wanting. Dresser says his collector at Archangel reports it as occurring there in summer; but I doubt it.

(34) *Columba ænas*, L. No. 167 in Tables.

Although recorded as occurring at Onega Sea (Kessler) and quoted by Meves (8), Sabanäeff (22) appears to doubt whether it really occurs in the S.W. District.

(35) *Columba turtur*, L. No. 169 in Tables.

Barely establishing itself upon the southern boundary of our present division, Mejakoff doubting whether it goes further north than 60° N. lat. (No. 19, p. 632), and his being the only record I can at present find of its occurrence in the S.W.

or S.C. Districts. The Turtledove recorded as abundant in Perm by Eversmann (quoted by Sabanäeff, No. 22) may yet prove to belong to the Eastern form, *Turtur orientalis*, Lath.

(36) *Tetrao urogallo-tetrix*, Sund. No. 174 in Tables.

Sabanäeff accounts for the presence of this hybrid by the unusual number of ♂ *T. urogallus* killed in spring leaving a great predominance of females, and was informed by a native of Ijma (64° N. lat.) that as many as five small birds are found in every hundred killed. At Ust Zylma Seeböhm and I found that the natives there did *not* kill the males in spring, as they were not considered good for food, but only the females, of which numbers were brought to us for sale in April.

(37) *Coturnix communis*, Bonnat. No. 178 in Tables.

Recorded by Sabanäeff (No. 22) as occurring at Vorhoturie; and he was informed of its occurrence at Ijma (64°) by a native, but considers this latter record of doubtful value. Its numbers would appear to vary considerably in different years, even in the extreme south of Vologda. Mejakoff mentions the years 1853, 1854, and 1855 as great Quail years; but in the year previous (1852) they did not appear at all.

(38) *Tringa minuta* and *T. Temminckii*. Nos. 206, 207 in Tables.

Sabanäeff states positively that the former breeds in the neighbourhood of Ekaterineburg, and even believes it to breed in the south of that government, and states also that they breed in the Government of Jaroslav and even of Moscow. In Pavda *T. Temminckii* is called "meyeneck," *i. e.* male of *T. minuta*.

(39) *Anser cinereus*, Meyer. No. 225 in Tables.

Records of this in S.W. seem to be doubtful—*v.* Palmén (11), Goebel (20); but it would appear to be common in the S.E. (Sabanäeff), where it is stated by Zerrenner (21) to breed, and also to winter a little to the southward and eastward of our limits. This, however, seems open to doubt.

(40) *Anser leucopsis*, Bechst. No. 229 in Tables.

The only record in S.W. and S.E. by Goebel (20), and in the S.E. by Sabanäeff (22). In the N.C. District, Middendorff records having seen this species (No. 1, p. 237).

(41) *Larus argentatus*, L. No. 279 in Tables.

Records of this species in the S.W. District will, I believe, be found to apply to the yellow-legged race—*Larus affinis*, Reinh. (*Larus cachinnans*, Pall.), which was the only Herring-Gull recognized by Alston and myself when travelling to Archangel in 1872, and having the dark mantle, although we confounded the two species, and made no mention of it in our paper (12) at that time. *Larus argentatus* will, I think, be found to occur only in the North-west and North-central Districts, more sparingly in the latter, abundantly in the former—as, for instance, at Solovetsk, where they are carefully protected and tended by the monks. Those gulls found to the southwards will, I believe, be found to belong to *Larus affinis*; or if *Larus argentatus* be found, it will only be in diminishing numbers. We must look to Herr Sievers's forthcoming report for more light on this subject.

Nor do I feel certain that many of the records of *Larus fuscus* do not apply really to the dark-mantled *Larus affinis*. The bird seen in Novaya Zemlya by Von Heuglin was probably *Larus affinis*, and not, as he records, *Larus fuscus*. Meves (23), speaking of the same species under the name "*Larus leucophæus*, Licht. (= *Larus cachinnans*, Pall.)," says that Dresser has figured the southern form with much paler mantle than that found by him (*vide* 'Birds of Europe,' part xxii). Seen at a distance *Larus affinis* could easily be mistaken for *Larus fuscus*, from its very dark mantle, the colour of the legs not being always discernible. Both Meves and Sabanäeff obtained it in the S.E. Ural; but I do not find distinct records of it from present published accounts within our limits. There cannot be much doubt, however, that it is found along the whole range of the Ural, to its furthest breeding-places on the Petchora, whilst it probably goes even as far as Novaya Zemlya.

CONCLUDING REMARKS.

Having thus presented in tabular form the distribution of the Birds of North Russia in six defined districts, I would, in conclusion, endeavour to point out that some such tabular method is more likely to ensure uniformity in record, if adopted by naturalists, than if each author, after writing his more lengthy account of the fauna of any given district, country, or continent, or Zoographical Division, left to the work of his successors the tedious and often difficult operation of reconciling all his ideas of "faunal values" with those of other authors. It is impossible, I think, too urgently to advocate

the text at the head of the first part of this series of papers, quoted from Mr. Wallace's 'Distribution of Animals,' however far short of its requirements I may myself have reached. Uniformity of method in recording natural-history observations, especially as regards distribution and migration, is a desideratum which, I hold, is only second in importance to uniformity of nomenclature. I confess, however, that I see little hope of such a uniformity being established, unless the subject be taken up by an influential body of naturalists, discussed and formally sanctioned and adopted, and advocated in somewhat the same manner as 'The British-Association Rules for Zoological Nomenclature.' This accomplished, however, upon a firm basis, the future work of naturalists in these branches (distribution and migration) could not fail to be made easier and smoother; and thereby science would be materially aided and advanced, and our knowledge of distribution more rapidly extended. If I have, in the very smallest degree, contributed towards its attainment, or have even awakened a desire in others for such a uniformity of method, I shall feel that all the labour expended on the above papers has not been entirely fruitless.

It only remains for me to thank kind friends and correspondents for the assistance they have rendered me in the course of my work, hoping that, so far as it is carried out, it will meet with their approval, as a contribution to our knowledge of the distribution of species in Europe.

ERRATUM IN PART II.

Page 13 (Tables), in the column for the N.E. District insert the symbol \diagup opposite *Hirundo rustica* (auct. 13).

Page 18, delete 19 before *Circus aeruginosus*.

Page 19, under *Asio otus*, instead of "same category as No. 19," read "The actual occurrence north of 64° 30' N. lat. is doubtful;" and thereafter, wherever the words "same category as No. 19" occur, viz. under (8), (14), (18), (20), (32), read "same category as (7)."

Page 24, delete "*vide* Postscript, p. 30."

XXVIII.— *On British Polyzoa*.—Part I.

By the Rev. THOMAS HINCKS, B.A., F.R.S.

THE first part of this paper is devoted to brief descriptions of a number of new forms, which I hope shortly to illustrate more fully and to figure in my forthcoming 'History of the British Marine Polyzoa.'